

Title (en)
LINK MANAGEMENT IN A METER READING SYSTEM

Title (de)
LINK MANAGEMENT IN ENINEM MESSGERÄTELESESYSTEME

Title (fr)
GESTION DES LIENS DANS UN SYSTÈME DE LECTURE DE COMPTEURS

Publication
EP 4021096 A1 20220629 (EN)

Application
EP 20217053 A 20201223

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Abstract (en)
The present disclosure refers to a method for link management for wireless communication between- a measuring device (7), wherein the measuring device (7) is installed to measure or detect a value at a utility installation, and- a data collection unit (5) for collecting data from the measuring device (7), wherein the method comprises:- sending data in a primary uplink data frame from the measuring device (7) to the data collection unit (5) via a primary channel,- providing by the measuring device (7), after sending the primary uplink data frame, a time-limited primary access opportunity (AO) for receiving a link management downlink frame from the data collection unit (5),- evaluating a primary signal quality upon receiving the primary uplink data frame via the primary channel,- sending one or more secondary uplink frames from the measuring device (7) to the data collection unit (5) via one or more secondary channels,- providing by the measuring device (7), after sending of at least some of the secondary uplink data frames, a time-limited secondary access opportunity (AO) for receiving a link management downlink frame from the data collection unit (5),- evaluating one or more secondary signal qualities upon receiving the one or more secondary frames via the one or more secondary channels,- selecting one among the primary access opportunity (AO) and the one or more secondary access opportunities (AO) for sending a link management downlink frame from the data collection unit to the measuring device (7) depending on the evaluation of the primary signal quality and the one or more secondary signal qualities, and- using, after receiving said link management downlink frame during the selected access opportunity from the data collection unit (5), the associated channel as the primary channel for sending data in a primary uplink data frame from the measuring device (7) to the data collection unit (5).

IPC 8 full level
H04W 52/44 (2009.01); **H04W 4/38** (2018.01); **H04W 72/12** (2009.01)

CPC (source: CN EP US)
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Citation (search report)
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• [A] WO 2015178937 A1 20151126 - FUJITSU LTD [JP], et al
• [A] KR 20200107020 A 20200916 - KYUNGPOOK NAT UNIV IND ACADEMIC COOP FOUND [KR], et al
• [A] EP 3742656 A1 20201125 - INTERDIGITAL PATENT HOLDINGS INC [US]
• [A] IN NO SORNIN ET AL: "?2015 LoRa(TM) Alliance", SPECIAL OR 25 EXEMPLARY, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY KIND, IN CONTRACT OR 26 IN TORT, IN CONNECTION WITH THIS DOCUMENT OR THE INFORMATION CONTAINED HEREIN, EVEN IF, 31 January 2015 (2015-01-31), pages 1 - 82, XP055368264, Retrieved from the Internet <URL:https://www.lora-alliance.org/portals/0/specs/LoRaWAN Specification 1R0.pdf> [retrieved on 20170428]

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